

WHAT IS CLAIMED IS:

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1. A geotextile/polyurethane composite comprising:
one or more geotextiles substantially impregnated with a one-component
heterogeneous liquid polyurethane composition comprising,
5 i) an isocyanate groups containing solid dispersed in a liquid
isocyanate reactive compound,
or
ii) a solid isocyanate reactive compound dispersed in a liquid
isocyanate, isocyanate adduct, or isocyanate terminated
10 prepolymer,
optionally catalysts, viscosity adjusting additives, solvents,
surfactants, crosslinking agents, pigments, fillers, and other
additives.

15 2. A liner for irrigation canals and ditches) comprising the
geotextile/polyurethane composite according to Claim 1.

20 3. The geotextile/polyurethane composite according to Claim 1,
having an elongation of at least about 5 % and a tensile strength of at least
about 200 psi.

25 4. The geotextile/polyurethane composite according to Claim 1,
wherein the water absorption is less than about 10 % by weight.

30 5. The geotextile/polyurethane composite according to Claim 1,
wherein the one or more geotextiles includes at least one thicker, more thicker than what?
sponge-like geotextile.

35 6. The geotextile/polyurethane composite according to Claim 1,
wherein the one or more geotextiles are substantially impregnated with the
one-component heterogeneous liquid polyurethane composition such that

abstract ✓

the amount of polymer present in the composite ranges from about 0.2 kg to about 20 kg of polymer per square meter of geotextile.

7. The geotextile/polyurethane composite according to Claim 1,
5 wherein the one or more geotextiles are impregnated with the one-component heterogeneous liquid polyurethane composition such that the amount of polymer present in the composite ranges from about 0.5 kg to about 5 kg of polymer per square meter of geotextile.

10 8. The geotextile/polyurethane composite according to Claim 1 having a thickness of from about 40 microns to about 500 microns.

9. A process of forming a geotextile/polyurethane composite comprising the steps of:
15 impregnating one or more geotextiles substantially with a one component heterogeneous liquid polyurethane composition comprising,
i) an isocyanate groups containing solid dispersed in a liquid isocyanate reactive compound,
or
20 ii) a solid isocyanate reactive compound dispersed in a liquid isocyanate, isocyanate adduct, or isocyanate terminated prepolymer,
optionally catalysts, viscosity adjusting additives, solvents, surfactants, crosslinking agents, pigments, fillers, and other additives;
25 conforming the one or more heterogeneous liquid polyurethane impregnated geotextiles to a surface; and
applying heat or a solvent to the heterogeneous liquid polyurethane impregnated geotextile to form a geotextile reinforced polyurethane/polyurea composite.
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10. The process according to Claim 9, wherein the composite is a liner for irrigation canals and/or ditches.

11. The process according to Claim 9, wherein the composite 5 has an elongation of at least about 5 % and a tensile strength of at least about 200 psi.

12. The process according to Claim 9, wherein the one or more geotextiles includes at least one thicker, more sponge-like geotextile.

10 13. The process according to Claim 9, wherein the one or more geotextiles are impregnated with the one-component heterogeneous liquid polyurethane composition such that the amount of polymer present in the composite ranges from about 1 kg to about 20 kg of polymer per square 15 meter of geotextile.

14. The process according to Claim 9, wherein the one or more geotextiles are impregnated with the one-component heterogeneous liquid polyurethane composition that the amount of polymer present in the composite ranges from about 2 kg to about 5 kg of polymer per square 20 meter of geotextile.

15. The process according to Claim 9, wherein the composite has a thickness of from about 40 microns to about 500 microns.

25 16. In a process of lining canals and ditches, the improvement comprising including the composite according to Claim 1.

30 17. In a process of lining canals and ditches, the improvement comprising including the composite made by the process according to Claim 9.